

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

May 23, 2001

THIS IS TO CERTIFY THAT ANNEXED HERETO IS A TRUE COPY FROM THE RECORDS OF THE UNITED STATES PATENT AND TRADEMARK OFFICE OF THOSE PAPERS OF THE BELOW IDENTIFIED PATENT APPLICATION THAT MET THE REQUIREMENTS TO BE GRANTED A FILING DATE UNDER 35 USC 111.

APPLICATION NUMBER: 09/605,422

FILING DATE: June 27, 2000



By Authority of the
COMMISSIONER OF PATENTS AND TRADEMARKS


P. SWAIN
Certifying Officer

FIGURE 1

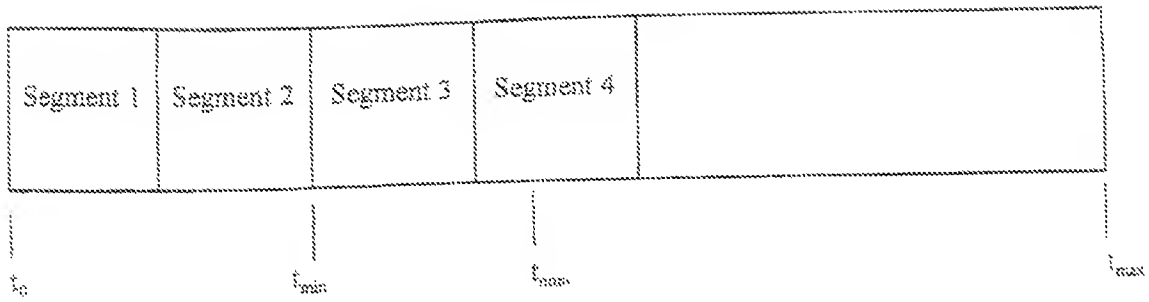


FIGURE 2

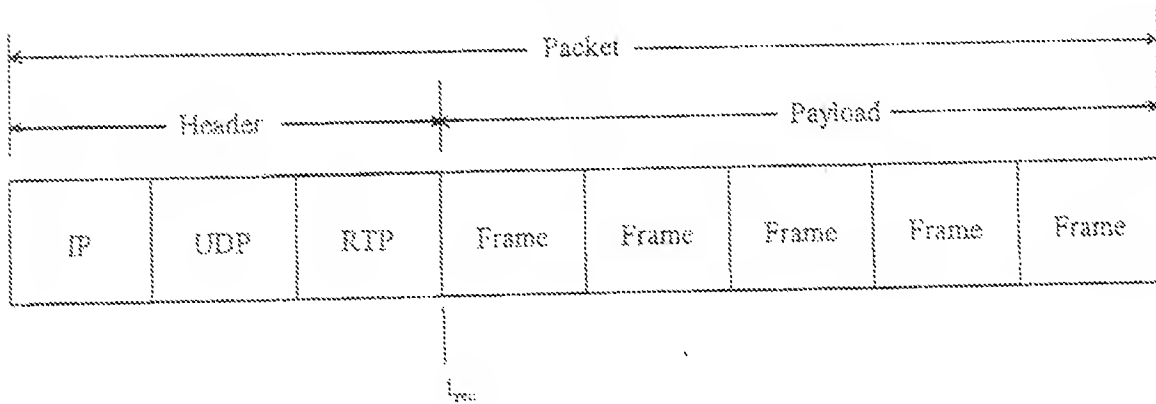
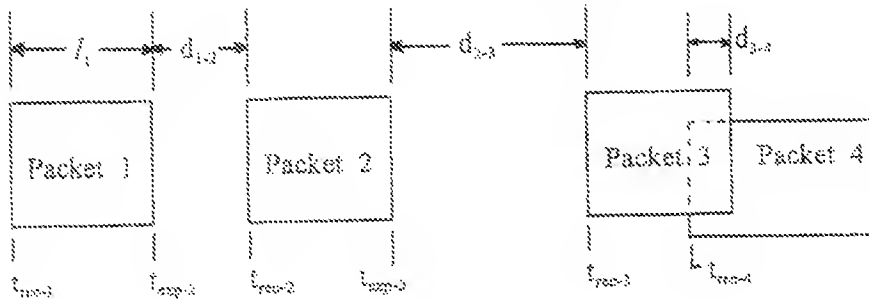


FIGURE 3



during silence which is indicated by a SID packet. Once an SID packet is received and playout stops, the last computed nominal delay value is retained and not updated until voice restarts after the silence period. At the restart of voice, the retained nominal delay is used to initialize playout delay. This delay in implementation of a new nominal value can have the effect of lengthening or decreasing periods of silence. As SID packets can only be received when the transmitters VAD is enabled, adaptive playout will not be able to adjust the delay during normal operations if the VAD is disabled on the remote transmitter.

Optionally, a user can enable adaptive playout without the reception of a SID. After applying hysteresis to the computed delay value, voice packets can be repeated or dropped as desired or necessary. The hysteresis prevents dropping or repeating unless the new delay is much different than the old delay. This minimizes but does not eliminate distortion from dropping or repeating voice.

BRIEF DESCRIPTION OF THE DRAWINGS

For a better understanding of the nature of the present invention, reference is had to the following figures and detailed description, wherein like elements are accorded like reference numerals, and wherein:

Figure 1 is a diagram illustrating an exemplary FIFO buffer.

Figure 2 is a diagram of illustrating an exemplary packet.

Figure 3 is a diagram illustrating an exemplary series of packets with varying delay.